

ENVIRONMENTAL ASSESSMENT

Cross Spear's Plan Of Operation For Milling Marble On Public Lands

EA Number: AZ-040-2005-0041

Lease/Serial/Case File Number: AZA 33129

Applicant: Cross Spear Marble, Incorporated; David Lincoln, Owner; Donald Riggs, Manager and owner of adjacent lands.

BLM Office: Safford Field Office, Safford, Arizona

Location of Proposed Action: In Apache Pass, within Section 30 - T15S – R29E, in the N/2. See Figure 2, Detailed Locality Map.

Conformance With Applicable Land Use Plan

This proposed action is subject to the following land use plan:

Name of Plan: Safford District Resource Management Plan (RMP)

Date Approved: Part I September, 1992 and Part II July, 1994

The proposed action has been reviewed to determine if it conforms with the applicable land use plan as required by 43 CFR 1610.5.

This plan is in conformance with the applicable land use plan:

CHECK ONE

(X) YES () NO

Remarks: The RMP notes the BLM fosters and encourages mining, lists areas where mining is to be prohibited or restricted, and does not list this area as such a place. The RMP is the current Land Use Plan to be relied on; prohibited areas are listed on page 8 of the Record of Decision, dated September, 1992.

PURPOSE/NEED FOR PROPOSED ACTION

Cross Spear Marble, Incorporated has submitted a mining plan of operations, as required by the 43 CFR 3809 surface management regulations, to the Safford BLM for portions of their existing marble quarry and milling operation that have encroached onto BLM-managed lands. The quarry and mill are primarily on private lands, located at the northwest end of the Chiricahua Mountains near Apache Pass in northern Cochise County, about 25 miles east of Willcox, Arizona (Figure 1). This marble is the metamorphosed Escabrosa Limestone. The mining plan notes that their uses for the material include smokestack gas scrubbers for the Sulfur Springs Valley electric generator located about 15 miles southwest of Willcox, landscape material, animal feed, soil conditioning, road surfacing, and plaster sand. This quarry has been in existence for

about four years, and has a projected mine life of at least 20 more years. The mine produces about 500 tons per day four days per week, with expectations to double that amount in the next few years. The area of the quarry is one of the few in the vicinity with outcrops of suitable quality marble with little or no overburden, an essential feature because of the high cost of trucking the material to relatively far away destinations such as Tucson. Last year the Safford BLM approved a proposed new quarry for Cross Spear, located about one mile east of the current one, using the same infrastructure and milling equipment already in place for this existing quarry. To date this new quarry has not been developed.

The area of the mine lies at the northern end of the Chiricahua Mountains near Apache Pass, which separates this mountain range from the Dos Cabezas Mountains to the northwest. Scenic, rugged peaks dominate the area. The area is covered by brush, grass, and cactus vegetation, with scrubby pinion pine and juniper trees becoming more prevalent with altitude. Surface water is generally only present immediately after precipitation. The elevation of the mine area is about 5,400 feet with nearby peaks going up to about 6,500 feet.

As shown on the detailed locality map (Figure 2) and aerial photograph (Figure 3), it turns out that significant portions of the operations for the existing quarry extend onto BLM lands in three areas, totaling about ten acres of disturbance. Cross Spear has been made aware of this situation by the Safford BLM, and have filed this mining plan to address current and future uses of these areas, the proposed reclamation of them, and a proposed dollar amount for a reclamation bond to cover these disturbances.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed Action: As described in their mining plan, Cross Spear marble mines, crushes, and screens rock – this marble quarry is their only active operation. They have two primary crushers and one secondary crusher. The material is mined using open pit methods, consisting of blasting, loading the material into dump trucks using front-end loaders, and hauling the rock about a half mile to the crushing and screening areas. Equipment to do this consists of five rubber-tired loaders, one track loader, two haul trucks, a track hoe, one blast hole drill, a road grader, a water truck, two pneumatic bag house dust collecting systems, and support and service equipment. Blasting powder (ANFO) is stored in sealed steel containers away from the operation, and blasting caps and related materials are stored in powder magazines away from both the operation and the powder. Other equipment includes an office, maintenance shop, storage shed, and certified truck scale. There is a 9000-gallon tank for storing off road diesel, a 5000 gallon tank for highway diesel, and a 500 gallon tank for gasoline. All tanks are placed in berms with plastic liners, with the berms large enough to hold all the material in the tanks. Lubricating oil is stored in 55-gallon drums. The only chemicals used in the operation are for cleaning equipment in the maintenance shop.

Water comes from two wells on the property, and is used for crushing and screening, and for dust control. According to the Plant Manager for the site, Chuck Brooks, one well

produces about 15 gallons per minute and the other much less than that. The more productive well has a 10,000 gallon storage tank and the other has two 3,000 gallon storage tanks. A third well on private land is currently being developed. Power is supplied by five diesel generators located on site. There are 11 employees at the site and two off site. Operations are from Monday through Thursday, with shipping and maintenance carrying into Friday.

As stated, the current mine production is about 500 tons per pay. Blasting is done once a month, with ten sites done at the same time, each drilled 14 feet deep in a pattern grid covering an area 10 feet by 10 feet, for a total of 1,000 square feet per month blasted 14 feet deep. There are two 30-ton highway haul trucks, each making about eight hauls per day. The main access route to market, as shown on Figure 1, is State Route 186 west through the towns of Dos Cabezas and Willcox to Interstate 10. The road system at the quarry goes from the quarry to Red Wing Ranch Road to Fort Bowie Road, which connects to Highway 186. Dust on the dirt roads is controlled to meet state and federal requirements; part of Red Wing Ranch Road has recently been chip sealed to reduce dust and maintenance - photographs of this road are shown in Figure 4.

The quarry is occasionally inspected by the State Mine Inspector's office and the Mine Safety and Health Administration, and, for air quality, the Arizona Department of Environmental Quality (ADEQ). The operator has an air quality permit from the ADEQ for the crushers, and a permit from the Bureau of Alcohol, Tobacco, and Firearms for the blasting. Mr. Riggs states that no other permits are required.

Most of the operation is on private land owned by the Riggs family, but it encroaches on BLM lands in three areas, as shown on Figures 2 and 3. Area 1 consists of about one acre in the SW/NW of Section 30-T15S-R29E. No material was mined from this area, but the area was bladed in preparation for mining. Figure 5 shows photographs of this area. Area 2 is located in the SE/NE of Section 30-T15S-R29E. This is an area adjacent to the active quarry, and consists of part of the overburden from the quarry and the haul road for the quarry. The overburden occupies about two acres, and the haul road is 30 feet wide plus shoulders (expanded from a pre-existing road about 20 feet wide), and crosses about 3/8 of a mile of public land, comprising another acre or so. Figure 6 shows photographs of Area 2.

Area 3 is by far the most extensive, consisting of nearly half the mill site, including the office, maintenance shop, storage shed, one primary crusher, about half of the secondary crusher, a silo for storing dust product, a cement truck for tumbling rock, and the three storage tanks. There are also areas of stockpiles and where equipment is parked. This area was built in a 40-acre section that Don Riggs thought was part of his family ranch; about six acres of public lands are disturbed. Cross Spear has staked four federal millsite claims over this area, with most of the disturbances being on the Cross Spear mill site claim. Figure 7 shows an aerial view of the operation showing where the BLM boundary is, and Figures 8, 9, 10, and 11 show photographs of this area.

The powder magazine was also on BLM-managed land but was moved to private land by Cross Spear when they realized it was on public land.

Cross Spear said there will be no further disturbances or encroachments on BLM lands during the course of operations, and that there are no current plans to add any facilities to the BLM lands, although it is possible that other equipment will be placed in the mill site area from time to time.

At the end of operations, Cross Spear plans to reshape and scarify Area 1 as needed and reseed it. The overburden in Area 2 will be pushed back into the pit, the area restored to its approximate original contours and reseeded. The haul road in Area 2 will be ripped and seeded as necessary, restoring the original road there to its original size. All the equipment, buildings, and material would be removed from Area 3, with the area recontoured and scarified as needed, and seeded. Cross Spear included a break down of the costs for this reclamation in their mining plan, proposing a \$40,000 reclamation bond; with administrative costs the total bond value would be \$48,500.

No Action Alternative: Under this alternative, the mining plan would not be approved, so the operator would have to move all operations onto private lands. As discussed in the 43 CFR 3809 regulations, this denial of their mining plan would be a viable alternative if the mining is resulting in unnecessary or undue degradation of the environment. The milling is done in a usual and customary manner, the same as is done on adjacent private land, and no undue or unnecessary degradation has been identified. Requiring moving everything to private lands has not been shown to be necessary and could result in the disturbance of about ten additional acres. There would be no practical way to move the overburden from BLM lands until the quarry is reclaimed.

ENVIRONMENTAL IMPACTS

Determine Scope of the Assessment: A mining plan of operations was filed by Cross Spear in November, 2003 for developing a new marble quarry on BLM lands about a mile east of the present one, as shown on Figure 1. In response, the Safford BLM performed clearances for cultural, wildlife, recreational, realty, and rangeland resources. A copy of a draft environmental assessment was sent to the Arizona Game and Fish Department (AGFD) and, because the Fort Bowie National Park is located just three miles north of the proposed quarry, the National Park Service (NPS). Their comments were incorporated into the final environmental assessment and record of decision approving the mine, with copies sent to those agencies. Although the quarry was approved, as mentioned it has yet to be developed. A copy of the present mining plan was mailed to the AGFD. A public notice of this mining plan was placed in the local Safford newspaper, the Eastern Arizona Courier, and in the Willcox paper, the Arizona Range News, allowing 30 days for public comment.

Issues Identified: The NPS has had several concerns about the present and proposed quarry. These involve the possible impacts of blasting, dust, and visual intrusion on the

Fort Bowie park. Cross Spear has been working with park personnel on these concerns over the last few years, and have found 1) no seismic impacts on their structures, although hikers in the eastern part of the park are able to hear blasts; the NPS has thus requested their staff be told of blasting 24 hours in advance and, for security reasons, the Willcox Sheriff's office requires being notified of blasting eight hours in advance; 2) normal dust control procedures at the present quarry suffice – no extra measures are needed; and 3) impacts to the viewshed of the park are not anticipated. Because of the lack of impacts from these concerns, they will not be carried forward in this document.

One concern raised by the BLM staff during review of the proposed quarry is that the BLM established the Fort Bowie Area of Critical Environmental Concern (ACEC) about one mile north of the present quarry (adjacent to the park), partly for establishing a visual buffer for the park, but it was noted that neither the present or proposed quarry are in the viewshed of the park, and neither conflicts with any of the management prescriptions for the ACEC. Because of this lack of impacts or conflicts, this concern will also not be carried forward in this document.

Although the establishment of noxious invasive weeds in the existing quarry has not been identified as an issue, the Safford BLM currently has a policy in place requiring operators of earth-moving activities to “thoroughly power wash and remove all vegetative material and soil before transporting equipment to the construction site to help minimize the threat of spreading noxious and invasive weeds. This includes trucks, trailers, and all other machinery. The holder shall be responsible for weed control on disturbed areas within the limits of the right-of-way or construction site. The holder is responsible for consultation with the authorized officer and local authorities for implementing acceptable weed treatment methods. Any use of chemical treatments will abide by all safety and application guidelines as listed on the product label and Material Data Safety Sheet (MSDS). Any reclamation efforts requiring seeding will be done with certified, weed-free native seed.”

This approach would be in addition to the 3809 regulations, which have performance-based standards to ensure that the responsibility for weeds, or for any other unforeseen problems caused by the mining, remain with the operator. As required by 3809.500, the operator must post a reclamation bond with the BLM to ensure full funding of the reclamation, should the operator fail to do it. And as explained in 3809.591, the BLM would keep 40 percent of this bond amount until it is satisfied that the revegetation in particular has been successful on the disturbed areas. In this particular case, the total reclamation bond is \$48,500, so \$19,400 of that would be held by the BLM until assured that the revegetation, which includes weed prevention and control, as described above is successfully implemented. And in the event the bond amount was not enough, or if there are unforeseen mining-related weed problems after bond release, 3801.592 states that the liability would remain with the operator.

No other issues or concerns have been noted by the BLM staff. There was no response to the public notices placed in the local papers, and the AGFD did not provide any comments on the mining plan. No significant impacts identified.

Critical Elements: The following critical elements would not be affected and therefore are not carried forward for additional analysis.

CRITICAL ELEMENTS (required by federal law)	AFFECTED		CRITICAL ELEMENTS (required by federal law)	AFFECTED	
	YES	NO		YES	NO
ACECS		X	Solid Waste		X
Air Quality		X	T&E Animal		X
Cultural Res		X	T&E Plant		X
Environmental Justice Socioeconomics		X	VRM		X
Flood Plains		X	Water Quality		X
Hazardous Materials		X	Wetland/Riparian		X
Invasive/Noxious Plants		X	Wilderness		X
Native American Rel.		X	Wild & Scenic River		X
Prime/Unique Farmland		X			

Description of Impacts

Proposed Action: The mill site, partly on public lands and partly on private, would remain active for at least the next 20 years. No further surface disturbances of the public lands are anticipated or authorized. All disturbances to public lands will be reclaimed at the earliest feasible time, mostly in connection with reclamation of the private lands, as lands are recontoured, equipment and supplies removed, compacted soils scarified, and the site reseeded.

No Action Alternative: As stated, this would result in all affected BLM lands immediately needing reclamation, requiring that all activities on BLM lands, including nearly half the current millsite, be moved to private land. This would likely cause additional surface disturbances of about ten acres for the moved portions of the mill, and the associated additional expenses to the operator for moving the equipment and the likely disruption of production rates.

Cumulative Impacts

Proposed Action: Although there are a few other marble outcrops in the area, including the area of the planned quarry about a mile to the east, plus an old quarry abandoned in the 1920's about a mile to the north, there are no other active marble quarries or mines of any sort in the area. As shown on Figure 2, the active quarry has resulted in about 40 acres of disturbances, close to 15 acres for the quarry itself, and the planned quarry could be up to about 20 acres in size with about seven acres of additional disturbances for the access road. The old, abandoned marble quarry occupies less than one acre. No other new quarries for marble or other minerals development in the area are anticipated at the present. A key impediment to mining in the area is the generally long distances to market.

No Action Alternative: Under this alternative, there could be an increase of up to about ten acres to the current environmental impacts, when considering past, present, and reasonably foreseeable future actions.

Mitigating Measures

1. Any archaeological, historical, or vertebrate fossil remains discovered during operations shall be left intact and undisturbed, all work in the area of the find shall stop immediately and the BLM Safford Office shall be notified immediately. Commencement of work in that area shall be allowed upon clearance by the Safford Office.
2. If in connection with operations under this authorization, any human remains, funerary objects, sacred objects or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (P.L. 101-601; Stat. 3048; 25 U. S.C. 3001) are discovered, the permittee shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the Assistant Field Manager for Planning and Monitoring of the discovery. The permittee shall continue to protect the immediate area of the discovery until notified by the Assistant Field Manager that operations may resume.
3. The operator will have it arranged so that if the contractor uses the earth moving equipment on sites other than the quarry, before bringing it back on site, the contractor is to thoroughly power wash and remove all vegetative material and soil before transporting equipment to the site to help minimize the threat of spreading noxious and invasive weeds. The operator shall be responsible for weed control on disturbed areas within the limits of the mine site. The operator is responsible for consultation with the authorized officer and local authorities for implementing acceptable weed treatment methods. Any use of chemical treatments will abide by all safety and application guidelines as listed on the product label and Material Data Safety Sheet (MSDS). Any reclamation efforts requiring seeding will be done with certified, weed-free native seed.

4. The operator shall promptly and properly remove and dispose of all waste on public lands caused by its activities. The term "waste" as used herein means all discarded matter including, but not limited to, trash, garbage, refuse, petroleum products, and equipment.
5. If dust becomes excessive, dust suppression methods such as watering shall be utilized.
6. Further surface disturbances of BLM-managed lands requires BLM approval of a mining plan amendment submitted by the operator.
7. Any additional uses of the impacted BLM lands that could cause a significant increase to the amount of the reclamation bond, such as installing a warehouse or another rock crusher, requires BLM approval of a mining plan amendment and acceptance of the new bond prior to the work being done.
8. Reclamation shall include reshaping the site to approximate original contours as much as reasonably possible, with the edges shaped and feathered into undisturbed areas. Disturbed areas will generally not be left at a slope steeper than 2:1 (horizontal: vertical).
9. Reseeding will be done as needed for final reclamation, with a seed mixture developed by the BLM.
10. A reclamation bond worth \$48,500 will be posted with the BLM prior to commencing surface-disturbing activities. As stated in the 43 CFR 3809 regulations, 60 percent of the reclamation bond will be released upon completion of reshaping, regarding, and scarifying disturbed areas, and the remaining \$19,400 will be released when revegetation has been completed.

Persons/Agencies Consulted:

Don Riggs, Chuck Brooks, and Robert Clayton, and David Lincoln, Cross Spear Marble Inc.

Joan Scott, Arizona Game and Fish Department, Tucson

BLM staff as shown on the checklist page completed for this EA.

List of Preparers:

Larry Thrasher, Geologist

Date:

August 15, 2005